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UTILITY PATENT APPLICATION

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Title of Invention: **Adjustable Motorcycle Support Stand**

## TITLE OF THE INVENTION

### **Adjustable Motorcycle Support Stand**

## CROSS REFERENCE TO RELATED APPLICATIONS

None

5      I. Background of the Invention

1. Field of Invention

The motorcycle support stand is a compact and folding device used as an additional support to a motorcycle when parking the motorcycle in a location where firm ground is not available, specifically a muddy field or a location having unstable or uneven ground conditions not conducive to the motorcycle being supported by its own kick stand. The device, comprising a base support frame and an adjustable height pedestal with a frame engaging trough, is compact and storable, being presented in several component parts without requiring any tools, and may be adjusted to the height of any motorcycle, being adapted to any motorcycle.

2. Description of Prior Art

15      The following United States patents were discovered and are disclosed within this application for utility patent. All relate to motorcycle jacks and jack stands.

Several prior art patents involve devices which are intended to elevate the motorcycle for maintenance and repair and are considered motorcycle jacks or jack stands. Those involve not only support stands, but also lifting means, which literally jack the motorcycle frame up off the ground.

20      In U.S. Patent No. 6,581,784 to Pino, a lever-type jack is disclosed which has a rigid connecting rod and a motorcycle support rod connected between side plates and has a lever handle, the device inserted under a motorcycle with the connecting rod and support rods both on the ground surface,

the motorcycle rod being elevated and the lever handle is rotated, the motorcycle frame being lifted as the motorcycle rod becomes vertically oriented over the support rod. Two U.S. Patents No. 6,464,207 to Creel and 5,979,878 to Blankenship involve lifting devices that have parallel support arms that lift the motorcycle above the devices as the parallel arms with an upper support plate are moved into a vertical orientation by a lever arm (Creel) or a contact plate attached to cables connected to the parallel arms (Blankenship). A pivotal rotating support surface placed under a motorcycle frame and raised using a wrench, the support stand having feet which may be adjusted to height. U.S. patent No. 4,580,804 to Weber is a pair of legs which are pivotally attached to a motorcycle frame that may be dropped down from the frame for a two leg support and retracted back into a horizontal stored position against the motorcycle frame using a spring retracting means. The legs appear to have some adjustment ability for length using a locking telescopic means.

U.S. patent No. 6,073,915 to Taylor is an A-frame jack which elevates as the two A-frame legs are moved closer together, with the fulcrum between the two legs being attached to a motorcycle frame, the legs being urged together and apart by a turnbuckle between the two legs, although not clearly shown in that patent. In U.S. Patent No. 5,816,561 to Kinsel, a compact and portable motorcycle jack stored in a tow sack, is assembled with two threaded post members engaging a cross bar assembly, the cross bar being raised on the threaded post members by the turning of actuating nuts below the cross bar assembly.

U.S. Patent No. 6,196,567 to Lyman is a fanned attachment to be attached to the bottom of a motorcycle kick stand to increase the contact surface of the kick stand end to prevent sinking into soft surfaces, addressing the similar problem of the current invention. U.S. Patent No. 453,094 to Taylor is submitted to indicate the early versions of a kick stand applied to two wheeled vehicles.

## II. Summary of the Invention

Some of the time, a motorcycle enthusiast will travel to certain locations that do not provide paved parking access. This leaves the motorcyclist with limited parking options, having to either find suitable locations to park where there are firm and solid ground conditions to provide a sturdy surface for the motorcycle kick stand, or risk having the motorcycle fall over on its side. A quickly assembled solid support stand for a motorcycle, having a vertically adjusting means and a large surface contact area base would be useful in providing a secondary support to a motorcycle to stabilize and support the motorcycle in an upright position on soft or uneven ground surface which may be assembled without the need for tools.

It is therefore the primary objective of the motorcycle support stand to provide a secondary motorcycle support stand which may be placed underneath a motorcycle and engage the motorcycle frame to support the motorcycle on soft and uneven ground surfaces. A secondary objective of the motorcycle support stand to provide such stand in such a way as to avoid the need for tools to assemble the components of the stand. A third objective is to provide the motorcycle support stand in assembled components that is compact and storable to be carried on a motorcycle without the need for a great deal of storage space, the component parts being sized to fit in a small carrying bag or container.

## III. Description of the Drawings

The following drawings are submitted with this utility patent application.

Figure 1 is a perspective view of the motorcycle support stand.

Figure 2 is an exploded perspective view of the motorcycle support stand.

Figure 3 is a side cross sectional view of the motorcycle support stand with isolation of the

central support member, the pedestal mounting bracket, the threaded pedestal with the V-shaped support plate, along section lines 3/3 of FIG. 1..

Figure 4 is a perspective view of a first embodiment of the pedestal mounting bracket.

Figure 5 is a perspective view of a second embodiment of the pedestal mounting bracket.

5      IV. Description of the Preferred Embodiment

A motorcycle support stand **10** providing secondary support to a motorcycle having a frame when parked on soft or uneven ground surfaces, shown in FIGS. 1-5 of the drawings, the motorcycle support stand **10** comprising a first support member **20** having an inner surface **25** with an inner attachment extension **27**, a second support member **30** having an inner surface **35** with an inner attachment extension **37**, a cross support member **40** removably connecting the inner attachment extension **27** of the first support member **20** and the inner attachment extension **37** of the second support member **30**, the cross support member **40** having an upper surface **45** containing an upper receiver aperture **47**, a mounting bracket **50a, 50b** removably attached to the cross support member **40**, the mounting bracket **50a, 50b** having a pedestal mounting block **60a, 60b** with an inner threaded bore **62a, 62b** oriented over the upper receiver aperture **47** of the cross support member **40**, the inner threaded bore **62a, 62b** engaging an outer threaded neck **71** of a pedestal **70**, the pedestal **70** having an upper end **72** attached to a V-shaped support channel **74** for placement under the motorcycle frame, wherein the first support member **20**, second support member **30** and cross support member **40** are connected in an H-shape which is placed on the ground surface, with the outer threaded neck **71** of the pedestal **70** being inserted into the inner threaded bore **62a, 62b** of the pedestal mounting block **60a, 60b** attached to the mounting bracket **50a, 50b** connected to the cross support member **40** providing an adjustable height support for the motorcycle when the V-shaped support channel **74**

is abutted against the motorcycle frame, the pedestal **70** being raised or lowered to the height of the motorcycle frame when parked.

The first support member **20**, FIGS. 1-2, is further defined as having an end cap **22** on a first end **21** and an end cap **24** on a second end **23** to prevent weathering of the respective ends **21, 23** of the first support member **20**. Likewise, the second support member **30**, FIGS. 1-2, is also further defined as having an end cap **32** on a first end **31** and an end cap **34** on a second end **33**. The first support member **20** also includes a lower surface **26** and the second support member **30** has a lower surface **36**. The inner attachment extension **27** of the first support member **20** has aligned bolt holes **28** and the inner attachment extension **37** of the second support member **30** has aligned bolt holes **38**.

The cross support member **40** has a first end **41** having first bolt holes **42** and a second end **43** having second bolt holes **44**. The cross support member **40** has a diameter larger than a diameter of the inner attachment extensions **27, 37** of the first support member **20** and second support member **30** allowing the inner attachment extensions **27, 37** to slide within the first end **41** and second end **43** of the cross support member **40**, wherein the bolt holes **28** on the inner attachment extension **27** of the first support member **20** are aligned with the bolt holes **42** of the first end **41** of the cross support member **40**, and the bolt holes **38** on the inner attachment extension **37** of the second support member **30** are aligned with the bolt holes **44** of the second end **43** of the cross support member **40**, with a bolt **80**, secured by a washer **81** and a nut **82**, placed through the aligned and respective bolt holes **28, 42** and **38, 44**, as indicated in FIG. 2 of the drawings.

The pedestal **70** is again defined as having the outer threaded neck **71** which is intended to engage the inner threaded bore **62a, 62b** of the pedestal mounting block **60a, 60b** which is connected

between the first side plate **51a**, **51b** and second side plate **55a**, **55b** of the mounting bracket **50a**, **50b**. As further shown in FIG. 3, the pedestal **70** includes the upper end **72** and a lower end **73**, the lower end **73** inserted within the inner threaded bore **62a**, **62b** of the pedestal mounting block **60a**, **60b**. The V-shaped support channel **74** is further defined as having an outer surface **75** with a lower angled edge **76** which is welded to the upper end **72** of the pedestal **70**. The support channel **74** also has an inner surface **78** defining a trough **79**, the trough **79** being the portion of the support channel **74** which engages the motorcycle frame. The pedestal **70** is rotated within the inner threaded bore **62a**, **62b** to extend or lower the pedestal **70**, with the upper received aperture **47** allowing for protrusion of the lower end **73** of the pedestal **70** into the cross support member **40**, if necessary, for a low height adjustment, as seen in FIG. 3.

The mounting bracket **50a**, **50b** is provided in two embodiments. In a first embodiment **50a**, shown in FIG. 4, the mounting bracket has a first side plate **51a** and a second side plate **55a** which are L-shaped, the first side plate **51a** and second side plate **55a** having lower arms **52a**, **56a** with bracket mounting holes **53a**, **57a** and upper arms **54a**, **58a**. The upper arms **54a**, **58a** of the first side plate **51a** and second side plate **55a** attach to the pedestal mounting block **60a**, leaving space between the lower arms **52a**, **56a**. The lower arms **52a**, **56a** are adapted to straddle the cross support member **40**, with the inner threaded bore **62a** of the pedestal mounting block **60a** oriented directly over the upper receiver aperture **47** of the cross support member **40**. Another bolt **80**, is inserted through the aligned bracket mounting holes **53a**, **57a** of the lower arms **52a**, **56a** of the first side plate **51a** and second side plate **55a**, the same bolt **80** passing through at least one set of aligned mounting bracket bolt holes **48** of the cross support member **40**, as shown in FIGS. 1-3. A nut **82** and washer **81** are applied to the bolt **80** to secure the bolt **80** after insertion. This first embodiment

mounting bracket **50a** may attach pivotally to the cross support member **40** if a single bolt **80** is used to connect the mounting bracket **50a** to the cross support member **40**.

In a second embodiment, the mounting bracket **50b**, shown in FIG. 5, has a first side bracket **51b** and second side bracket **55b** that are T-shaped, the first side plate **51b** and second side plate **55b** having lower arms **52b**, **56b** with bracket mounting holes **53b**, **57b** and upper arms **54b**, **58b**. The upper arms **54b**, **58b** of the first side plate **51b** and second side plate **55b** attach to the pedestal mounting block **60b**, leaving space between the lower arms **52b**, **56b**. The lower arms **52b**, **56b** are adapted to straddle the cross support member **40**, with the inner threaded bore **62b** of the pedestal mounting block **60b** oriented directly over the upper receiver aperture **47** of the cross support member **40**. The lower arms **52b**, **56b** have at least two sets of aligned bracket mounting holes **53b**, **57b** through the first side plate **51b** and second side plate **55b** with a bolt **80** passing through at least two sets of aligned mounting bracket holes **48** in the cross support member **40** (not indicated in the drawings). Nuts **82** and washers **81** secure the bolts **80** after insertion. This second embodiment of the mounting bracket **50b** would not be pivotally attached to the cross support member **40**.

While the invention has been particularly shown and described with reference to a preferred embodiment thereof, it will be understood by those skilled in the art that changes in form and detail may be made therein without departing from the spirit and scope of the invention.

**What is claimed is:**